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a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power,

wherein said first, second, third, and fourth lens units move to the object side along an optical axis in zooming from the wide angle end to the telephoto end,

wherein said first lens unit has a diffractive optical surface located on a surface other than a lens surface closest to the object side of said first lens unit, or said fourth lens unit has a diffractive optical surface located on a surface other than a lens surface closest to the image side of said fourth lens unit,

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units, and

wherein the shape of the surface closest to the image side in said fourth lens unit is convex to the image side.

2. (Unamended) A zoom lens according to claim 1, wherein said diffractive optical surface comprises concentric circular phase gratings that are rotationally symmetrical with respect to the optical axis of said zoom lens.

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3. (Amended) A zoom lens according to claim 1, wherein said first lens unit has a diffractive optical surface located on the image side of a lens closest to the object side of said first lens unit, or said fourth lens unit has a diffractive optical surface located on the object side of a lens closest to the image side of said fourth lens unit.

4. (Unamended) A zoom lens according to claim 1, wherein said first, second, third, and fourth lens units are individually denoted as the i-th lens unit, where i equals 1, 2, 3, or 4, wherein when the optical power obtained by the diffractive action of the diffractive optical surface of said i-th lens unit is denoted by ϕDi , and the optical power of the i-th lens unit is denoted by ϕLi , the condition $\phi Di / \phi Li > 0$ is satisfied.

5. (Unamended) A zoom lens according to claim 1, wherein said first lens unit comprises one positive lens element and one negative lens element.

6. (Unamended) A zoom lens according to claim 1, wherein said second lens unit comprises one negative lens element.

7. (Unamended) A zoom lens according to claim 1, wherein said third lens unit comprises at least two positive lens elements and at least one negative lens element.

8. (Unamended) A zoom lens according to claim 7, wherein said third lens unit comprises a bonded lens.

9. (Unamended) A zoom lens according to claim 1, wherein said fourth lens unit comprises one positive lens element and two negative lens elements.

10. (Unamended) A zoom lens according to claim 1, wherein said diffractive optical surface has a structure formed by laminating phase diffraction gratings composed of materials having different refractive indices.

11. (Unamended) A zoom lens according to claim 1, wherein said diffractive optical surface corrects lateral chromatic aberration.

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12. (Twice Amended) Optical equipment, comprising:
an optical-equipment element; and
a zoom lens according to claim 1, said zoom lens being connected to said optical-equipment element.

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35. (Amended) A zoom lens, comprising in sequence from an object side to an image side:
a first lens unit having a positive optical power;
a second lens unit having a negative optical power;
a third lens unit having a positive optical power; and
a fourth lens unit having a negative optical power,
wherein said first, second, third, and fourth lens units move to the object side along an optical axis in zooming from the wide angle end to the telephoto end,
wherein said first lens unit has a diffractive optical surface located on a surface other than a lens surface closest to the object side of said first lens unit, or said fourth lens unit

has a diffractive optical surface located on a surface other than a lens surface closest to the image side of said fourth lens unit,

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units, and

wherein said first lens unit consists of a negative lens whose concave surface faces the object side and a positive lens in sequence from the object side to the image side.

36. (Amended) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power,

wherein said first, second, third, and fourth lens units move to the object side along an optical axis in zooming from the wide angle end to the telephoto end,

wherein said first lens unit has a diffractive optical surface located on a surface other than a lens surface closest to the object side of said first lens unit, and

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units.

37. (Amended) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

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a second lens unit having a negative optical power;
a third lens unit having a positive optical power; and
a fourth lens unit having a negative optical power,
wherein said first, second, third, and fourth lens units move to the object side
along an optical axis in zooming from the wide angle end to the telephoto end,

wherein said first lens unit has a diffractive optical surface located on a surface
other than a lens surface closest to the object side of said first lens unit, or said fourth lens unit
has a diffractive optical surface located on a surface other than a lens surface closest to the image
side of said fourth lens unit,

wherein the lens units comprising the zoom lens are only said first, second,
third, and fourth lens units, and

wherein the zoom lens further comprises an aperture stop, and said aperture
stop moves with said second lens unit as a unit in zooming.

38. (Amended) A zoom lens, comprising in sequence from an object side to an
image side:

a first lens unit having a positive optical power;
a second lens unit having a negative optical power;
a third lens unit having a positive optical power; and
a fourth lens unit having a negative optical power,
wherein said first, second third, and fourth lens units move to the object side
along an optical axis in zooming from the wide angle end to the telephoto end,

wherein said first lens unit has a diffractive optical surface located on a surface other than a lens surface closest to the object side of said first lens unit, or said fourth lens unit has a diffractive optical surface located on a surface other than a lens surface closest to the image side of said fourth lens unit,

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units, and

wherein said second lens unit consists of a negative lens.

39. (Amended) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power,

wherein said first, second, third, and fourth lens units move to the object side along an optical axis so that the interval between said first lens unit and said fourth lens unit decreases, in zooming from the wide angle end to the telephoto end,

wherein said first lens unit has a diffractive optical surface located on a surface other than a lens surface closest to the object side of said first lens unit, or said fourth lens unit has a diffractive optical surface located on a surface other than a lens surface closest to the image side of said fourth lens unit, and

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units.

40. (Amended) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power,

wherein said first, second, third, and fourth lens units move to the object side along an optical axis in zooming from the wide angle end to the telephoto end,

wherein said first lens unit has a diffractive optical surface located on a surface other than a lens surface closest to the object side of said first lens unit, or said fourth lens unit has a diffractive optical surface located on a surface other than a lens surface closest to the image side of said fourth lens unit,

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units, and

wherein said fourth lens unit comprises a positive lens and two negative lenses.

REMARKS

Reconsideration and allowance of the subject application are respectfully solicited.

Claims 1 through 12 and 35 through 40 are pending, with Claims 1 and 35 through 40 being independent. Claims 1, 3, 12, and 35 through 40 have been amended. The specification has been amended.